

REMARKS

Attached hereto is a complete listing of all the pending claims. By this Response, no claims have been amended.

At the outset, Applicant acknowledges with appreciation the Examiner's indication that claims 51-103 and 106-140 are allowed.

Rejection Under 35 U.S.C. § 102

In paragraph 1 of the Office Action, the Examiner rejects claims 104 and 105 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent 6,275,500 ("Callaway"). As discussed below, Applicant respectfully traverses this rejection.

A. The Law of Anticipation and Enabling Prior Art References

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. M.P.E.P. § 2131. The identical invention must be shown in as complete detail as is contained in the claim. *Id.*

However, Applicant submits that independent claims 104 and 105 each have elements that cannot be found, either expressly or inherently, in Callaway. Specifically, each of claims 104 and 105 recite, in part, "an ultra-wideband wireless communication network." Callaway has no teaching or suggestion of an ultra-wideband wireless communication network.

In the Office Action, the Examiner states that Callaway teaches an ultra-wideband wireless communication network, and refers to FIG. 2 to support his statement. FIG. 2, as described in Callaway, is "a block diagram of a wireless network system in accordance with the present invention." The invention as taught in Callaway is a system that can be compatible with Bluetooth 1.0 requirements (col. 2, lines 3-4), and states:

"Preferably, in a future Bluetooth scenario, the slaves would move to a high speed channel at 5.8 GHz to exchange data. Referring to FIG. 5, the slaves then acknowledge on the first communication resource (preferably at 2.4 GHz)" (col. 3, lines 56-60).

Bluetooth 1.0 is a wireless communication standard that operates at the 2.4 GHz radio frequency. As taught in Callaway, transmission may be at one frequency, and reception may be at another frequency. Bluetooth communication employs a conventional sine wave carrier frequency, with data modulated onto the carrier frequency.

As discussed in the March 6, 2003, Response to Office Action, an ultra-wideband communication system broadcasts a multiplicity of pulses of very short duration to transmit a signal. Ultra-wideband (UWB), or impulse radio employs pulses of electromagnetic energy that are emitted at nanosecond or picosecond intervals (generally tens of picoseconds to a few nanoseconds in duration). For this reason, ultra-wideband is often called "impulse radio." *Because the excitation pulse is not a modulated waveform, UWB has also been termed "carrier-free" in that no apparent carrier frequency is evident in the radio frequency (RF) spectrum. That is, the UWB pulses are transmitted without modulation onto a sine wave carrier frequency, in contrast with conventional radio frequency technology (i.e., Callaway).* Ultra-wideband requires neither an assigned frequency nor a power amplifier.

The specification of the instant application discusses the unique characteristics of ultra-wideband communication technology on page 16:

"This method uses short Radio Frequency (RF) pulses to spread the power across a large frequency band and as a consequence reduces the spectral power density as the interference with any device that uses conventional narrowband communication [such as Paneth]. This method of transmitting short pulses is also referred to as Ultra Wide Band technology. This present implementation provides baseband wireless transmission without any carrier."

Callaway contains no teaching or suggestion of an ultra-wideband communication system, and as discussed above, ultra-wideband technology functions completely differently than

conventional carrier wave technology. Therefore, the anticipation rejection of independent claims 104 and 105 is respectfully traversed.

Rejection Under 35 U.S.C. § 103

In paragraph 2 of the Office Action, claims 141-143 stand rejected as unpatentable under 35 U.S.C. § 103(a) over Callaway in view of Applicant's admitted prior art 'AAPA.' Applicant respectfully traverses this rejection.

A. The Law of Obviousness

In order to establish a prima facie case of obviousness, three basic criteria must be met:

"First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined), must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant's disclosure." M.P.E.P. § 2142.

As discussed above, Callaway teaches a system that can be compatible with Bluetooth 1.0 requirements, as conceded by the Examiner in the 3rd paragraph of page 3 of the instant Office Action. Callaway contains no teaching of ultra-wideband technology, nor does 'AAPA.' Thus, Applicant submits that neither Callaway, nor 'AAPA' alone or in combination, teach or suggest all of the claim limitations found in independent claims 141 or 143, as each of these claims recites, in part, an "ultra-wideband wireless communication network."

As discussed above, ultra wide band communications does not generally require an assigned frequency. Instead, ultra wide band technology broadcasts pulses of very short duration to transmit a signal across a very broad frequency spread. In contrast, conventional carrier wave systems, as taught in Callaway, emit a continuous waveform at a specific frequency.

Therefore, the obviousness rejection of independent claims 141 and 143 is respectfully traversed. Because claim 142 depends from independent claim 142, it is respectfully submitted that the rejection of this claim has been traversed by virtue of its dependency from the independent claim. M.P.E.P. § 2143.03.

Conclusion

Applicant believes that this Response has addressed all items in the Office Action and now places the application in condition for allowance. Accordingly, favorable reconsideration and allowance of claims 104, 105 and 141-143 at an early date is solicited. Applicant notes with appreciation that claims 51-103 and 106-140 have been allowed. No fee is believed due with this response. However, the Commissioner is authorized to charge any fee required to our Deposit Account No. 50-2298, in the name of Luce, Forward, Hamilton & Scripps LLP. Should any issues remain unresolved, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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